

REMARKS

The present amendment is in response to the Office Action dated November 17, 2006. Claims 1-7, 9-27, and 29-36 are now present in this case. Claims 15-21 are allowed. Claims 1 and 27 are amended. Claims 8 and 28 canceled.

The applicants wish to express their appreciation to the Examiner for the allowance of claims 15-21 and for the further indication that claims 28-31 and 34 would be allowable if rewritten in independent form. The applicants have inserted language from claim 28 into independent claim 27. Accordingly, claim 27 and dependent claims 29-36 are now in condition for allowance.

Claims 1-7, 9-14, and 22-26 stand rejected under 35 U.S.C. § 112, second paragraph as being indefinite. The applicants have amended claim 1 to more clearly recite the nature of the claimed invention. Accordingly, the applicants respectfully request the withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

Claims 1, 2, 3, 11, and 26 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 3,152,548 to Schwartz. Claims 22-25 stand rejected under 35 U.S.C. § 103(a) as unpatentable by Schwartz. The applicants respectfully traverse this rejection and request reconsideration. The Office Action states, at page 3, that Schwartz discloses “a system having a reusable orbital vehicle.” This is incorrect. Nothing in Schwartz teaches or even suggests that the orbital vehicle is reusable. Schwartz merely discloses a thermal protection system comprising metal and ceramic layers. The Office Action defines the fins on the rocket ship of Figure 1 in Schwartz as the equivalent of the “external payload packages.” (See Office Action, page 3.) Such a broad definition of experimental packages is unreasonable in light of the teachings in Schwartz. Furthermore, it should be noted that the thermal protection system in Schwartz does not relate to the rocket body, to which the fins are attached. Rather, the thermal protection system shown in Figure 2 of Schwartz is used only for the nose cone 4, “which is formed of a structure 5 embodying the principles of this invention.” (See column 3, line 26-28.) The entirety of Schwartz is directed to the thermal protection system used to protect the nose cone from the high heat of re-entry. Schwartz provides no discussion of a thermal protection system for the body of the vehicle to which the tail fins are attached. As such, Schwartz does not teach or even suggest any arrangement

wherein an external payload package is positioned on the outermost layer of the orbital vehicle formed by the thermal protection system, as recited in claims 1. Accordingly, claim 1 and dependent claims 2, 3, 11, and 22-26 are allowable over Schwartz.

Claims 1-4, 7, 9-14, and 26 stand rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 4,804,571 to Jouffreau. The applicants respectfully traverse this rejection and request reconsideration. Jouffreau is directed to a thermal protection system. The Office Action acknowledges that the thermal protection system 16 is attached to the outer skin of the orbital vehicle. However, the elements defined in the Office Action as “external payload packages” are in fact part of the thermal protection system itself. Specifically, element 37 is a curved panel portion of the thermal protection system. (See column 6, lines 12-28.) The Office Action also defines elements 40-42 as “external payload packages.” However, element 40 is a hole drilled in the metal shield while element 41 is the head of a screw 42 used to attach the metal shield to the orbital vehicle. These are not experimental packages, but are fasteners that form an integral part of the thermal protection system. Jouffreau does not teach or suggest any experimental package mounted on the outermost layer of the orbital vehicle formed by the thermal protection system, as recited in claim 1. Accordingly, claim 1 and dependent claims 2-4, 7, 9-14, and 26 are allowable over Jouffreau.

Claims 5, 6, and 22-25 stand rejected under 35 U.S.C. § 103(a) as unpatentable by Jouffreau combined with U.S. Statutory Invention Registration No. H1133 to Bridges et al. The applicants respectfully traverse this rejection and request reconsideration. The inapplicability of Jouffreau has already been discussed in detail above. That is, the so-called “external payload packages” in Jouffreau are, in fact, fasteners that form an integral part of the thermal protection system. The combination of Bridges et al. with Jouffreau does not overcome this serious deficiency. The fact that Bridges et al. shows an access panel for the landing gear does not teach or suggest that any experimental packages are attached thereto. First, Jouffreau does not teach or suggest the use of any experimental packages mounted on the outer surface of the thermal protection system. Secondly, Bridges et al. also provides no suggestion of experimental packages mounted on the external surface anywhere on the vehicle,

including the access panels. Accordingly, claims 5, 6, and 22-25 are clearly allowable over the combination of Jouffreau and Bridges et al.

In view of the above remarks, reconsideration of the subject application and its allowance are kindly requested. The applicants have made a good faith effort to place all claims in condition for allowance. If questions remain regarding the present application, the Examiner is invited to contact the undersigned at (206) 628-7640.

Respectfully submitted,
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